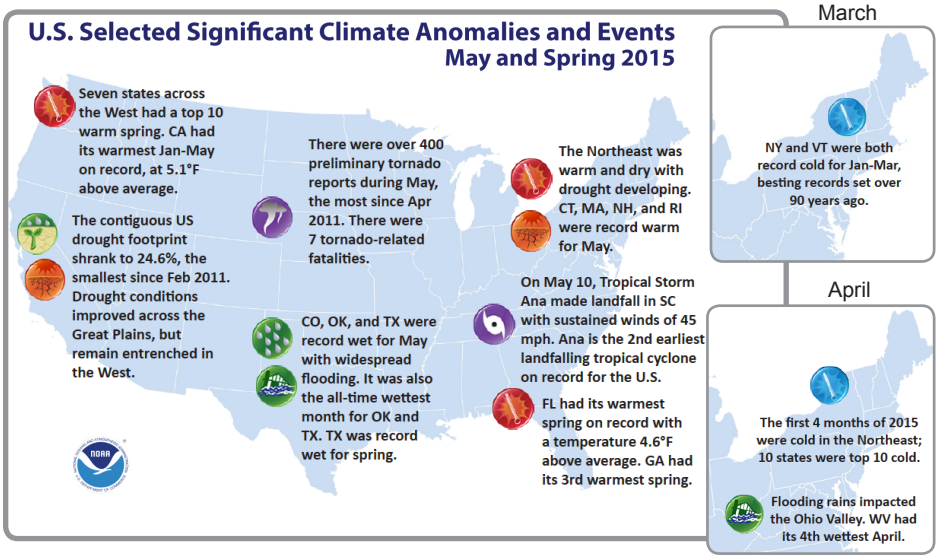
Quarterly Climate Impacts and Outlook

Eastern Region

June 2015

National - *Significant Events for March–May 2015*



The contiguous United States was 2.2°F above the 20th century average during spring, making it the 11th warmest spring on record. March was 3.9°F above average, making it the 12th warmest March, while April was 2.1°F above average, making it the 17th warmest April. May was 0.6°F above average. During spring, the contiguous U.S. precipitation total was 1.39 inches above average, making it the 11th wettest spring on record. March precipitation was 0.43 inches below average, making it the 19th driest March. April precipitation was 0.26 inches above average, while May precipitation was 1.45 inches above average, making it the wettest May and wettest month of all-time. The contiguous U.S. had its 5th smallest March snow cover extent in the 49-year period of record and its 10th smallest April snow cover extent.

Highlights for the East

Spring was generally a consistently dry season punctuated by periods of heavy rain. The dryness, combined with record to near-record warm May temperatures, led to moderate drought in parts of the Northeast.

In March and April, river flooding and flash flooding led to numerous road closures, water rescues, and mudslides in the Ohio Valley. In mid to late April, ice jams caused flooding in northern Maine.

A total of 12 tornadoes, ranging in strength from EF-0 to EF-2, touched down in Ohio, Pennsylvania, and the Carolinas during April and May. Funnel clouds, straight line winds, flash flooding, and large hail were reported throughout the region.

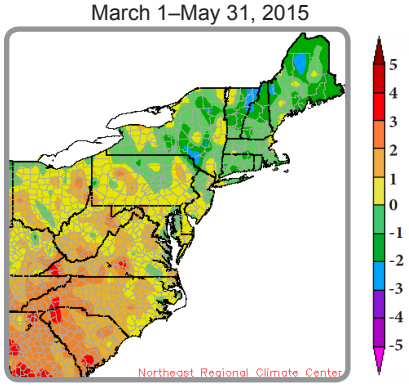
On May 10, Tropical Storm Ana became the earliest named storm to make landfall in South Carolina in recorded history. The storm dumped up to 7 inches of rain, causing flash flooding. Kinston, NC, had its wettest May day on record. Waves up to 12 feet high caused coastal flooding and erosion.

Numerous records were set during spring. Islip, NY, had its snowiest March and spring on record, while Pittsburgh and Harrisburg, PA, had their all-time lowest March temperatures. Caribou, ME, had its all-time lowest April temperature. Multiple climate sites had record-warm or record-dry Mays.

Regional - *Climate Overview for March–May 2015*

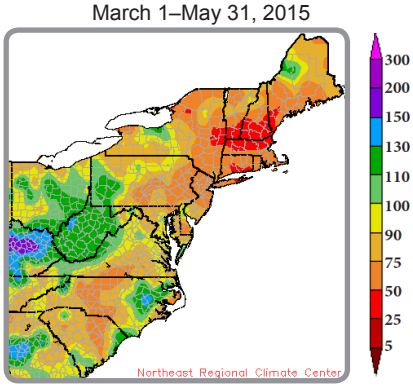
Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
March 1–May 31, 2015



The Eastern Region's spring temperature averaged out to be 0.5°F above normal, with the Carolinas ranking this spring among their top 18 warmest. Spring transitioned from a cold March to a near normal April to a mild May. March was 3.2°F below normal, with nine states ranking the month among their top 20 coldest. April was 0.3°F above normal, with South Carolina having its 12th warmest April. May was 4.5°F above normal, making it the Eastern Region's sixth warmest May. Connecticut, Massachusetts, New Hampshire, and Rhode Island had record-warm Mays, with another 11 states ranking this May among their top 20 warmest. The Northeast had its warmest May on record.

Percent of Normal Precipitation (%)
March 1–May 31, 2015

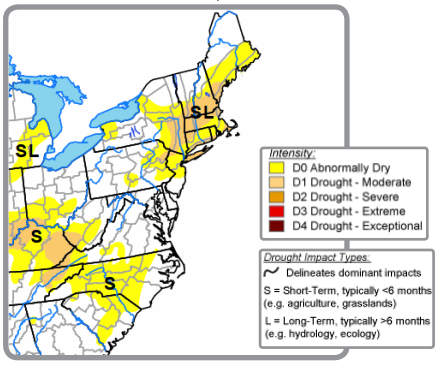


Spring was a dry season for the Eastern Region at 84% of normal precipitation. Seven states ranked this spring among their top 16 driest. The region saw 83% of normal precipitation in March, with four states ranking this March among their top 12 driest. West Virginia had its 20th wettest March though. In April, New England was dry, but southern states were wet. In fact, West Virginia had its fourth wettest April. Overall, the region saw 106% of normal precipitation. May precipitation was 61% of normal, making it the 14th driest May. Ten states ranked the month among their top 17 driest.

Normals based on 1981–2010

Drought in the East

U.S. Drought Monitor
June 18, 2015



Eight states started March with abnormally dry conditions. By month's end, twelve states were abnormally dry and a drought watch was declared for 27 Pennsylvania counties. During April, dryness remained in the Northeast but eased in Virginia and the Carolinas. Conditions deteriorated in May, with moderate drought introduced in the Northeast. Abnormal dryness expanded in Ohio and the Northeast, while dryness was reintroduced in Virginia and the Carolinas. While precipitation in early June kept much of the Northeast's drought from getting worse, dry conditions remained across the region. In fact, moderate drought was introduced in Ohio, West Virginia, and Virginia.

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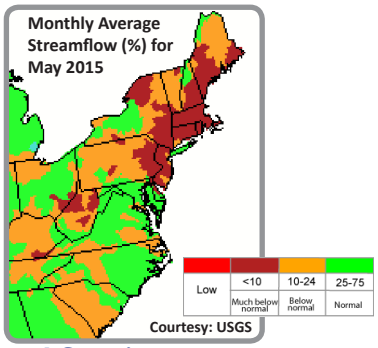
Regional - *Impacts for March–May 2015*

Delayed Spring

Cold temperatures and snow cover were slow to exit the region this spring, particularly in March and early April. The start of the growing season was delayed by up to a month. In April, the ground was too cold and wet to do fieldwork in many areas, with some fields still snow covered in New England. Agriculture reports indicated that a freeze damaged crops in Virginia and North Carolina. Cherry blossoms in Washington, DC, peaked about a week later than normal due in part to cold temperatures in early March. The harsh winter and late spring also contributed to above-average tree pollen counts, leading to a shortened but concentrated allergy season.

A late snowmelt in northern New England cut short the development period for amphibians that hatch in pools created by melted snow and need several months to grow legs before these pools dry up. Above-normal snowfall likely insulated deer ticks, which transfer diseases to humans.

Cold water temperatures in the Gulf of Maine contributed to lower-than-normal catches in the early part of the year, leading to higher prices.



Endangered Species

The Gulf of Maine population of Atlantic salmon is one of eight species identified nation-wide by NOAA Fisheries as most at risk of extinction in the near future. The species exists only in a few waterways in Maine. Dams, climate change, non-native fish species, habitat destruction, and marine survival continue to threaten the species' survival. Using the NOAA Habitat Blueprint framework, the Penobscot Bay Habitat Focus Area was developed in 2014 in support of Atlantic salmon recovery and restoration of sea-run migratory fish. NOAA is working with its partners and local communities to remove barriers to fish passage by removing dams, constructing fishways, and replacing culverts and is monitoring and assessing the ecological results of these efforts.

Dry Conditions

The abundant snow that fell during winter had a low water content, so overall winter precipitation was near to below normal. Flood potential, however, was near to above normal going into spring. Cold temperatures early in the season allowed snow to melt slowly, mitigating the flood threat. Despite multiple storms, spring precipitation was also near to below normal. As a result, stream flows became much below normal in parts of the Northeast in May (see graphic to left).

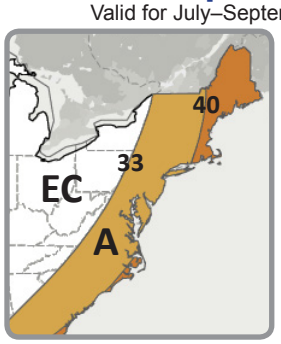
Topsoil moisture as of May 31 was rated short or very short in 51% of New Hampshire. U.S. Department of Agriculture crop reports indicated that plant growth was slow due to lack of moisture, with some farmers already irrigating. Other farmers halted planting until precipitation arrived. However, the North Carolina blueberry crop could be record-setting thanks to the dry weather.

A statewide burn ban was enacted in Vermont for the first time in 10 years. The dryness contributed to numerous wildfires across the region. On March 31, a fire near Black Mountain, NC, destroyed a home and injured a firefighter. In early May, a fire burned more than 2,600 acres in Sullivan and Ulster counties in New York.

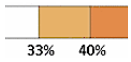
Regional - *Outlook for Summer 2015*

Precipitation and Temperature

Valid for July–September 2015

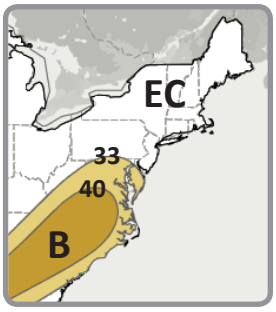


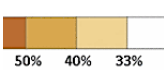
A: Above-normal
B: Below- normal
EC: Equal chances of above-, near, or below-normal
33: Probability of above- or below-normal



The Climate Prediction Center calls for an increased chance of above-normal temperatures for much of the area stretching from New England to South Carolina from July through September, with equal chances of above-, near-, or below-normal temperatures elsewhere.

An increased chance of below-normal precipitation is forecast for Virginia, the Carolinas, and parts of the Mid-Atlantic and West Virginia for July through September. Equal chances of above-, near-, or below-normal precipitation are forecast elsewhere.





El Niño

Issued: June 11, 2015

During May, ongoing and strengthening El Niño conditions were observed in the equatorial Pacific. The Climate Prediction Center says there is a 90% chance of El Niño continuing through fall, with an 85% chance of it continuing through winter. El Niño impacts in the region are generally weak during summer but are more significant for some areas in winter.

2015 Atlantic Hurricane Season

Issued: May 27, 2015

While the 2015 Atlantic hurricane season got an early start with Tropical Storm Ana in early May, NOAA is predicting that the season will likely be below normal. There is a 70% chance of 6–11 named storms. Of the named storms, 3–6 could become hurricanes, with 0–2 of those becoming major hurricanes. The main driver of the forecast is El Niño, which is expected to help suppress hurricane development.

Drought

Issued: June 18, 2015

The Climate Prediction Center expects drought conditions to improve during summer in the Northeast "due to the proximity of the summer storm track, and the overall historical tendency for above-median precipitation during the past 10 to 15 summers." With above-normal temperatures and below-normal precipitation predicted, drought is forecast to develop in the Carolinas.

Eastern Region Partners

National Oceanic and Atmospheric Administration
www.noaa.gov
- **National Climatic Data Center**
  www.ncdc.noaa.gov
- **National Weather Service, Eastern Region**
  www.weather.gov
- **NOAA Fisheries Science Centers and Regional Offices, Atlantic**
  www.nmfs.noaa.gov
- **Office for Coastal Management**
  www.oceanservice.noaa.gov
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  www.research.noaa.gov
- **NOAA National Sea Grant Office**
  www.seagrant.noaa.gov
- **NOAA's North Atlantic, South Atlantic, and Great Lakes Regional Collaboration Teams**
  www.regions.noaa.gov
- **Climate Prediction Center**
  www.cpc.noaa.gov
- **National Operational Hydrologic Remote Sensing Center**
  www.nohrsc.noaa.gov

Northeast Regional Climate Center
www.nrcc.cornell.edu

Southeast Regional Climate Center
www.sercc.com

National Integrated Drought Information System
www.drought.gov

Carolinas Integrated Sciences and Assessments
www.cisa.sc.edu

Consortium on Climate Risk in the Urban Northeast
www.ccrun.org

Cooperative Institute for North Atlantic Research
www.cinar.org

Eastern Region State Climatologists
www.stateclimate.org

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